Mr. Rodney Mann
Kamic Corporation
6345 South Inwood Drive
Columbus, Indiana 47201

Dear Mr. Mann:

Re: Exempt Construction and Operation Status,
005-13788-00082

The application from Kamic Corporation received on January 17, 2001, and additional information received on March 2, 2001 and March 22, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following stationary source that manufactures metal automotive parts, located at 6345 South Inwood Drive, Columbus, Indiana 47201 is classified as exempt from air pollution permit:

(a) Machining/metal fabrication, capable of processing a maximum throughput of 2,893 pounds of metal per hour. This operation consists of the following:
(1) Cutting machines;
(2) Lathes
(3) Broaches;
(4) burnishing machines;
(5) Centerless grinders;
(6) Quenching;
(7) Finishing operation, which includes a metal coating line for rust prevention;

(b) Various natural gas-fired HVAC units at a total heat input rate of 2.5 million British Thermal Units per hour (mmBtu/hr),

(c) One (1) natural gas-fired tempering furnace, identified as TFC-100 ERT with a heat input capacity of 2.04 mmBtu/hr,

(c) Two (2) natural gas-fired carborizing furnace, each has a heat input of 2.036 mmBtu/hr;

(d) One (1) additional CNC lathe, which uses cutting oil at a rate of 386 gallons per year;

(e) One degreaser with a 1.06 mmBtu/hr natural gas-fired furnace,

(f) One endothermic gas generator, with a gas flow rate of 38 cubic meter per hour (m^3/hr), which involves the following:
(1) Carborizing process with a maximum gas flow rate of 18 m^3/hr, and
(2) Carbonitriding process with a maximum gas flow rate of 18 m^3/hr.

The following conditions shall be applicable:

(1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuos opacity monitor in a six (6) hour period.

(2) Pursuant to 326 IAC 8-3-5 (Organic Solvent Degreasing Operations),

(a) the owner or operator of the cold cleaner degreaser shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) the solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));

(B) the solvent is agitated; or

(C) the solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) The owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

(3) Any change or modification which may increase the actual VOC emissions from the rust coating of metal parts to fifteen (15) pounds per day before control shall be subject to 326 IAC 8-2-9 (Miscellaneous Metal Coating).

This existing source is being re-permitted based on the new 326 IAC 2 rules.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

APD

cc: File - Bartholomew County
Bartholomew County Health Department
Air Compliance - D J Knotts
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	Kamic Corporation
Source Location:	6345 South Inwood Drive, Columbus, Indiana 47201
County:	Bartholomew
SIC Code:	3714
Operation Permit No.:	005-13788-00082
Permit Reviewer:	Aida De Guzman

The Office of Air Quality (OAQ) has reviewed an application from Kamic Corporation relating to the operation of a stationary metal automotive parts manufacturing plant. This plant consists of the following equipment:

(a) Machining/metal fabrication, capable of processing a maximum throughput of 2,893 pounds of metal per hour. This operation consists of the following:
  (1) Cutting machines;
  (2) Lathes
  (3) Broaches;
  (4) burnishing machines;
  (5) Centerless grinders;
  (6) Quenching;
  (7) Finishing operation, which includes a metal coating line for rust prevention;

(b) Various natural gas-fired HVAC units at a total heat input rate of 2.5 million British Thermal Units per hour (mmBtu/hr),

(c) One (1) natural gas-fired tempering furnace, identified as TFC-100 ERT with a heat input capacity of 2.04 mmBtu/hr,

(c) Two (2) natural gas-fired carborizing furnace, each has a heat input of 2.036 mmBtu/hr;

(d) One (1) additional CNC lathe, which uses cutting oil at a rate of 386 gallons per year; and

(e) One degreaser with a 1.06 mmBtu/hr natural gas-fired furnace,

(f) One endothermic gas generator, with a gas flow rate of 38 cubic meter per hour (m^3/hr), which involves the following:
  (1) Carborizing process with a maximum gas flow rate of 18 m^3/hr, and
  (2) Carbonitriding process with a maximum gas flow rate of 18 m^3/hr.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on January 17, 2001. Additional information was received on March 2, 2001 and March 22, 2001.

Emission Calculations

(a) Natural Gas Combustion Emissions: See Page 1 and 2 of 2 TSD Appendix A for detailed calculations.

(b) Endothermic Generator, Carborizing and Carbonitriding Process Emissions:

Source	Gas Flow (m^3/hr)	Moles CO/Mole Gas	Ft^3/m^3	CO Density (lb/cu ft)	CO Emissions (lb/hr	CO Emissions (lb/hr)	CO Emissions (tons/yr)
Endothermic Gas Generator Capacity	38	0.20	35.31	00.074	20.35	0.41	1.79
Carborizing Process Input	18	0.20	35.31	0.074	9.64	0.19	0.83
Carbonitriding Process Input	18	0.20	35.31	0.074	9.64	0.19	0.83
TOTAL						0.79	3.45

Note: Endothermic - involves the absorption of heat that destroys CO at 98%.

(c) Machining/Metal Fabrication Emissions:

(1) Carborizing Furnace: See combustion emissions on page 1 of 1 TSD Appendix A.

(2) Quenching Emissions: There is no VOC nor HAP emission from this operation because the oil does not contain any VOC nor HAP.

Operation/ Facility	Material Name	Usage Rate (gal/hr)	Usage Rate (gal/yr)	Density (lb/gal)	VOC Weight Percent (%)	HAP Weight Percent (%)	Percent (%) Flash Off	VOC Emissions (tons/yr)	HAP Emissions (tons/yr)
Burnishing and CNC Lathe	Yumate (cutting oil) SC-820	0.093	425.0 + 386.0	8.92	35.0	0.0	100	2.7	0.0
Broaching and Cutting	Yuman UB-65N	No VOC nor HAP							
Centerless Grinding	Yumate (cutting oil) S-83	0.02	144.0	8.92	45.0	30.0	100	0.61	0.41
CNC Lathe and Grinding	Shell Tonna Oil T68	No VOC nor HAP							
Rust Prevention/ Finishing	Rustcoat 310	0.20	1585.0	7.2	50.0	00.0	100	6.0	0.0
TOTAL								9.31	0.41

Note: 1. The % Flash off of the cutting oil depends upon its consistency. Although there is a recovery made to the cutting oil (Yumate SC-820 & S-83), and a certain % of the VOC may be bound (didn't flash off) in the recovered oil, the worst case flash off of 100% will be assumed.

2. Diethanolamine is the only HAP being emitted by the source.
3. All the material usages in the machining/metal fabrication was based on 4160 hours/yr (based on the previous issued permit), therefore these usages will be potentialized to 8760 hours/yr.

Methodology:
Emissions, tons/yr = usage, gal/yr * 8760 hrs/yr /4160 hr/yr * density, lb/gal * ton/2000 lb * wt % VOC or wt % HAP * % Flash off

(d) Parts Cleaner/ Degreaser with 1.06 mmBtu/hr furnace Emissions:

(1) Yumage WSW-2110 - used for parts washing prior to heat treatment has 0% VOC.

(2) Yumate S-83F - used for parts washing after grinding:

Weight % VOC = 25%
Maximum Usage Rate = 324 gallons/year (based on 8760 hrs/yr)
Density = 1.05 lb/gal

VOC Emissions = 324 gal/yr * 1.05 lb/gal * ton/2000 lb * 25% VOC
= 0.04 ton/yr

	SUMMARY OF EMISSIONS (TONS/YEAR)				
Pollutant	Natural Gas Combustion	Endothermic Generator	Machining/Metal Fabrication	Parts Cleaner/Degreaser	Total Emissions
PM/PM10	0.08	0.0	0.0	0.0	0.08
VOC	0.23	0.0	9.31	0.04	9.5
NOx	4.23	0.0	0.0	0.0	4.23
CO	3.56	3.45	0.0	0.0	7.01
SO2	0.02	0.0	0.	0.0	0.02
HAP (all diethanolamine)	0.0	0.0	0.41	0.0	0.41

Potential To Emit of Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	0.08
PM-10	0.08
SO_2	0.02
VOC	9.5
CO	7.01
NO_x	4.23

HAP's	Potential To Emit (tons/year)
Diethanolamine	0.41
TOTAL	0.41

Justification for the Level of Approval

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of volatile organic compounds (VOC) or oxides of nitrogen (NOx) are below the emission thresholds that requires a registration or permit. Therefore, the source is **exempted** pursuant to 326 IAC 2-1.1-3.

County Attainment Status

The source is located in Bartholomew County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	not determined

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Bartholomew County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Bartholomew County has been classified as attainment or unclassifiable for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing re-permitted source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Emissions (ton/yr)
PM	0.08
PM10	0.08
SO_2	0.02
VOC	9.5
CO	7.01
NO_x	4.23
Single HAP	0.41
Combination HAPs	0.41

(a) This existing re-permitted source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)
This existing re-permitted source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons/year.

Federal Rule Applicability

(a) New Source Performance Standards
There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) National Emission Standards for Hazardous Air Pollutants

(a) 40 CFR Part 63.460, Subpart T - National Emission Standards for Halogenated Solvent Cleaning - The provisions of this subpart apply to each individual batch vapor, in-line vapor, in-line cold and batch cold solvent cleaning machine that uses solvent containing methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-thrichloroethane, carbon tetrachloride or chloroform, or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent.

The cold cleaner degreaser is not subject to this NSPS, because it does not use any halogenated solvent for cleaning.

(c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

(a) 326 IAC 2-6 (Emission Reporting)
This source is located in Bartholomew County and the potential to emit VOC is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

(b) 326 IAC 5-1 (Visible Emissions Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(1) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

(a) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The operation of machining/metal fabrication will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs, and it predates the applicability of this rule. Therefore, 326 IAC 2-4.1 does not apply.

(b) 326 IAC 6-2-4 (PM Emissions from Sources of Indirect Heating)
The various natural fired-gas units are not subject to 326 IAC 6-2-4, because they are **not** sources of indirect heating.

(c) 326 IAC 8-2-9 (Miscellaneous Metal Coating)

(1) 326 IAC 8-2-9 is **not** applicable to the materials (Yumate SC-820, Yumate S-83, Shell Tonna Oil T68, Yuman UB-65N) being applied in the machining/metal fabrication because they are not coatings. They do not leave any film on the substrate. “Coating” means the application of protective, functional or decorative films.

(2) Rustcoat is the only coating used in the machining/metal fabrication. It is **not** subject to 326 IAC 8-2-9, because it has no actual VOC emissions of 15 pounds per day or greater before add-on control.

(d) 326 IAC 8-3-5 (Organic Solvent Degreasing Operations)

(1) 326 IAC 8-3-5, applies to the cold cleaner degreaser without remote solvent reservoir constructed after July 1, 1990 located any county.

“Cold cleaner degreaser” means a tank containing organic solvent at a temperature below the boiling point of the solvent which is used to spray, brush or immerse an article for the purpose of cleaning or degreasing the article.

Kamic Corporation parts washer/degreaser is maintained at 90 ^{0}C, which is below 100 ^{0}C, the boiling point of the solvent used. Therefore, it is a cold cleaner degreaser and is subject 326 IAC 8-3-5:

(a) The owner or operator of the cold cleaner degreaser shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) the solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));

(B) the solvent is agitated; or

(C) the solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):

(A) A freeboard that attains a freeboard ratio of seventy-five

hundredths (0.75) or greater.

(B) A water cover when solvent used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) The owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

(2) 326 IAC 8-3 is not applicable to the parts washer/degreaser when it is used to clean parts prior to heat treatment, because the liquid being used does not contain VOC.

Conclusion

The operation of this metal automotive parts manufacturing plant shall be subject to the conditions of the attached Exemption **005-13788-00082.**

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

HVAC Units @ 2.5 mmBtu/hr
TFC-100 ERT @ 2.04 mmBtu/hr
2 Degreaser furnaces @ 1.06 mmBtu/hr

Company Name: **Kamic Corporation**
Address City IN Zip: **6345 South Inwood Drive, Columbus, IN 47201**
Registration No.: **003-13788-00082**
Reviewer: Aida De Guzman
Date Application Rec'd: Jan. 17, 2001

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
5.6	49.0

Pollutant	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.05	0.19	0.01	2.45	0.13	2.06

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

2 carborizing furnaces @ 2.036 mmBtu/hr

Company Name: **Kamic Corporation**
Address City IN Zip: **6345 South Inwood Drive, Columbus, IN 47201**
Registration No.: **003-13788-00082**
Reviewer: Aida De Guzman
Date Application Rec'd: Jan. 17, 2001

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
4.1	35.7

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.03	0.14	0.01	1.78	0.10	1.50

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).